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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

SCHEUERMANN, DAVID W

ART UNIT PAPER NUMBER

2834

DATE MAILED: 02/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/766,650

Applicant(s)

VOHLGEMUTH, PATRICK

Examiner

David W. Scheuermann

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 11-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 17-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of the species as shown in Figure 8 in Paper No. 10 is acknowledged. The traversal is on the ground(s) that all species are sufficiently related and that a search on the entire examination can be made without burden. Upon reconsideration, it is determined that a reasonable number of species are claimed. The species restriction is thus withdrawn, "... provided the application also includes an allowable claim generic to all the claimed species and all the claims to species in excess of one are written in dependent form or otherwise include all the limitations of the generic claim," as set forth in 37 CFR 1.141 (a). However, the restriction requirement made in paper 7 remains.

The examiner respectfully disagrees that a thorough search of the apparatus (Group I) would encompass a thorough search of the method (Group II) and that the search would not create a serious burden to the examiner. A thorough search for the method claims (11-16) would encompass substantial and thus serious searching beyond the apparatus claims (1-10 and 17-26) since the apparatus could be made by different methods such as stacking the sectors by hand then inserting linking staples and finally welding axial cooling ducts to join these components into the magnetic circuit as claimed. In other words, to thoroughly examine the method claims, both similar and related manufacturing arts such as metal-working, stamping, cutting, and assembling

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may have to be searched. These arts do not constitute mandatory searches for the apparatus claims. These additional searches and possible rejections spawned from them create an additional serious burden for the examiner. Additionally the machine tool arts and metal shaping apparatus arts would have to be search and assessed to determine if the present method would have been obvious over prior art manufacturing apparatus at the time the invention was made, since it is generally held that a method of manufacturing claim can be rejected with a showing that a machine that can perform that method. These additional searches, while not mandatory for the apparatus, are burdensome to the examiner, yet required to complete a thorough search of the method. For example if the prior art reveals a machine tool that could perform the method substantially as claimed, a rejection for the method claims using that art must be made. Since these additional searches and rejections spawned there from are not required for a through search of the apparatus they create a serious burden for the examiner. Thus the examiner respectfully disagrees that a thorough search for the apparatus would encompass a search for the method. For these reasons the restriction outlined in paper 7 is proper.

37 CFR 1.141 (a) states that, "Two or more independent and distinct inventions may not be claimed in one national application...." Therefore, for the reasons recited in paper 7, in addition to the reasons set forth supra, this requirement is still deemed proper and is therefore made FINAL.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the diameter of 300 mm must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1, 17 and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The meaning of "external," claim 1, and "outside," claim 17 are confusing because the line of demarcation distinguishing a sector from a link has not been established. Note that in figure 2, link 22 appears to lie "within" sector 11 as it fills a hole in sector 11. The phrase "and/or" renders claim 17 unclear. Re claim 25, there is no basis for "said bars."

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Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4, 17, 22 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by any of Ohuchi et al. US 3842493. Ohuchi et al. in figure 1 and 2 show strip 1 helically wound to form a magnetic structure for a motor. Note figure 2, tooth 2 forms a sector and the partial links shown are ends of the horizontal “tee” arms, GKPC and DQLH.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2-6, 8-10, 17-22 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Licata et al. in view of Nakahara et al., US 5859486. Licata et al.

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show strip 12, having segments 14 joined by links 18, wound around mandrel 30 to form a magnetic circuit. Note in column 2, lines 27-36 and column 4, lines 1-21 the strip is helically wound so as not to have axially adjacent segment junctions. Licata et al. does not expressly disclose that the links are external to segment 14. In the same field of laminated motor sectors, Nakahara et al. teach forming links external to the segments as shown in figure 103 or figure 122. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the links taught by Nakahara et al. to join segments 14 of Licata et al. One of ordinary skill in the art would have been motivated to do this for any of making the joint easier to bend, making the joint stronger, and ensuring that all teeth have the same magnetic characteristic.

As to claim 19, note the Licata et al. show in figures 2 and 3 a segment with an angular width of 80 degrees. This would read on the recited formula using the number of teeth equal to 18, k equal to 6, and j equal to 1.

Claims 20 and 21 recite design choices of optimal sector angular width and stack diameter, respectively, which are viewed as optimum or workable ranges discoverable through routine experimentation. Case law has established that design choices are not patentable, see *In re Aller et al.*, (CCPA) 105 USPQ 233, that " ...it is not inventive to discover optimum or workable ranges by routine experimentation."

Claims 7 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Licata et al. in view of Nakahara et al., as applied to claim 1 above, and further in view of Rich, US 40102040. Licata et al. in view of Nakahara et al. show the invention as claimed except as set forth supra except the links are not expressly disclosed in the

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form of staples. Rich teaches, in figure 12b, using staples to link the sectors used to form a magnetic circuit of a motor. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the staples of Rich to link the sectors of Licata et al. One of ordinary skill in the art would have been motivated to use staples as taught by Rich to avoid the requirement of forming all the sectors out of a single strip of metal.

Claims 24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Licata et al. in view of Nakahara et al., as modified, as applied to claim 17 above, and further in view of Frister, EPO 72999. Licata et al. in view of Nakahara et al., show the invention as claimed except for the bars around outer periphery of the sector stack. Frister in figure 1-3 teach forming bars around the periphery of a sector stack for the purpose of forming cooling channels. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to add bars around the periphery of the sector stack of Licata et al., as modified. One of ordinary skill in the art would have been motivated to do this to provide a cooling channel for the sector stack.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Shen et al. show notches 4L in figure 3. Kazama et al. show staples 19 used to link segments. Asao et al. show links forming a greater outside


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diameter than the teeth segments, see figure 4. Nishiyama et al. show tongue and groove mating profiles along sector flanks in figure 2, Hirano et al. show a similar mating structure in figure 1. Fritzsche '711 shows a helically wound stator core structure with long links between sectors. Fritzsche '522 shows a wound stator core structure having slits that define the segments from the links. Wiley shows v-shaped cutouts 44 in figure 7 used to aid the deformation process.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David W. Scheuermann whose telephone number is (703) 308-9637. The examiner can normally be reached on Monday through Friday from 8:00 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7724 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


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